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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/593,792	09/21/2006	Arndt Jaeger	12406-213US1 P2004,0273 U	2788

26161 7590 01/07/2010

FISH & RICHARDSON PC
P.O. BOX 1022
MINNEAPOLIS, MN 55440-1022

EXAMINER	
LOXAS, PETER J	

ART UNIT	PAPER NUMBER
2811	

NOTIFICATION DATE	DELIVERY MODE
01/07/2010	ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

PATDOCTC@fr.com

Office Action Summary	Application No.	Applicant(s)	
	10/593,792	JAEGER ET AL.	
	Examiner	Art Unit	
	PETER LOXAS	2811	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *13 October 2009*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-11 and 13-31* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-11 and 13-31* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date *7/2/2009*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 1, 4, 9, 12-14, 24-27 and 29 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hamakawa et al. (Hamakawa) US Patent No. 4,820,925, and further in view of Ovshinsky, US Patent No. 4,713, 493.

RE CLAIM 1: Hamakawa teaches **a radiation detector** (color sensor) **for detecting radiation** (A, light) **according to a predefined spectral sensitivity distribution** (fig. 2) **that exhibits a maximum at a predefined wavelength λ_0** (fig. 2)**, comprising a semiconductor body** (1) **with an active region** (5 photoelectric sensor layered body) **serving to generate a detector signal and intended to receive radiation** (It has been held that the recitation with respect to the matter in which a claimed apparatus is intended to be employed does not differentiate the claimed apparatus from a prior art apparatus satisfying the claimed structural limitations. See MPEP § 2114)**, wherein said active region** (4, 5, photoelectric sensors, fig. 1, col. 2,

lines 52 and 67) **comprises a plurality of functional layers** (PINPIN, col. 2, lines 53-56)**, each one of the functional layers** (layers comprising 4 and 5) **being implemented to absorb at least some of the radiation** (a short wavelength component of the light is abosorbed in the I-layers of 4 and 5, col. 3, lines 8-11)**, and wherein at least a part of said functional layers** (4 and 5) **absorbs radiation in a wavelength range that includes wavelengths greater than the wavelength λ_0** (see MPEP 2114)**.**

Hamakawa shows substantially the limitations of claim 1 as shown above. Hamawaka is silent as to the functional layers having different band gaps.

However, in an analogous structure, Ovshinsky teaches **at least two** (intrinsic layers of at least two triads) **of said functional layers having different band gaps** (at least two triads are fashioned so as to have band gaps optimized to absorb different wavelngths of the solar spectrum (col. 8, line 3).

It would have been obvious to a person of ordinary skill in the art at the time the invention was made to employ functional layers having different band gaps, as shown by Ovshinsky, in order to absorb different wavelengths of the solar spectrum (col. 8, line 4).

RE CLAIM 4: Hamakawa teaches **that disposed after said active region is a filter layer structure comprising at least one filter layer** (Hamakawa recites “the prior art discloses an example of a color sensor in which an optical filter, e.g., of color organic resin, is adhered to a sensor element of amorphous silicon (col. 1, lines 13-16))**,**

layer structure determines the short-wave side of the detector sensitivity in accordance with the predefined spectral sensitivity distribution by absorbing radiation in a wavelength range that includes wavelengths smaller than λ_0 (see MPEP 2114).

RE CLAIM 9: Hamakawa teaches **a radiation detector** (1) **for detecting radiation in accordance with a predefined spectral sensitivity distribution that exhibits a maximum at a predefined wavelength λ_0** (see MPEP 2114)**, comprising a semiconductor body** (amorphous semiconductor, abstract) **with an active region** (5) **serving to generate detector signals and intended to receive radiation** (see MPEP 2114)**,**

Wherein said active region comprises a plurality of functional layers (comprising 4 and 5)**, and each of the functional layers is implemented to absorb at least some of the radiation,** (a short wavelength component of the light is abosorbed in the I-layers of 4 and 5, col. 3, lines 8-11) **and**

wherein disposed after said active region (5) **is a filter layer structure comprising at least one filter layer** (Hamakawa recites "the prior art discloses an example of a color sensor in which an optical filter, e.g., of color organic resin, is adhered to a sensor element of amorphous silicon (col. 1, lines 13-16))**, which filter layer structure determines the short-wave side of said detector sensitivity in accordance with said predefined spectral sensitivity distribution by absorbing**

radiation in a wavelength range that includes wavelengths smaller than λ_0 (see MPEP 2114)**.**

Hamakawa shows substantially the limitations of claim 9 as shown above. Hamawaka is silent as to the functional layers having different band gaps.

However, in an analogous structure, Ovshinsky teaches **at least two** (intrinsic layers of at least two triads) **of said functional layers having different band gaps** (at least two triads are fashioned so as to have band gaps optimized to absorb different wavelngths of the solar spectrum (col. 8, line 3).

It would have been obvious to a person of ordinary skill in the art at the time the invention was made to employ functional layers having different band gaps, as shown by Ovshinsky, in order to absorb different wavelengths of the solar spectrum (col. 8, line 4).

RE CLAIM 13: Hamakawa teaches **said functional layers** (PINPIN) **at least partially absorb radiation in a wavelength range that includes wavelengths greater than the wavelength λ_0** (see MPEP 2114)**.**

RE CLAIM 14: Hamakawa teaches **said functional layers** (PINPIN) **have different band gaps and/or thicknesses** (different thicknesses, fig. 1)**.**

RE CLAIM 24: Hamakawa teaches **said functional layers** (PINPIN) **determine by their implementation the long-wave side of said detector sensitivity in accordance with said predefined spectral sensitivity distribution for wavelengths greater than λ_0** (see MPEP 2114)**.**

RE CLAIM 25: Hamakawa teaches **the functional layers** (PINPIN). However, Hamakawa is silent as to the band gaps of the functional layers.

Hamakawa discloses the claimed invention except for the respective band gaps of functional layers disposed one after the other in said semiconductor body at least partially increase in the direction of the incident radiation. It would have been obvious to one having ordinary skill in the art at the time the invention was made to employ the respective band gaps of functional layers disposed one after the other in said semiconductor body at least partially increase in the direction of the incident radiation, since it has been held to be within the general skill of a worker in the art to select known material on the basis of its suitability for the intended use as a matter of obvious design choice. *See MPEP § 2144.06*.

RE CLAIM 26: Hamakawa teaches **said functional layers** (PINPIN) **or at least a portion of said functional layers are substantially undoped.**

Hamakawa discloses the claimed invention except for the functional layers are substantially undoped. It would have been obvious to one having ordinary skill in the art at the time the invention was made to employ undoped functional layers, since it has

been held to be within the general skill of a worker in the art to select known material on the basis of its suitability for the intended use as a matter of obvious design choice. *In re Leshin*, 125 USPQ 416.

RE CLAIM 27: Hamakawa teaches **the active region (PINPIN). However,** Hamakawa is silent as to the active region **comprises at least one heterostructure.**

Hamakawa discloses the claimed invention except for the active region comprises at least one heterostructure. It would have been obvious to one having ordinary skill in the art at the time the invention was made to employ an active region comprising at least one heterostructure, since it has been held to be within the general skill of a worker in the art to select known material on the basis of its suitability for the intended use as a matter of obvious design choice. *See MPEP § 2144.06*.

RE CLAIM 29: Hamakawa teaches **semiconductor body particularly the semiconductor body comprising said filter layer structure, is monolithically integrated** (Hamakawa recites "the prior art discloses an example of a color sensor in which an optical filter, e.g., of color organic resin, is adhered to a sensor element of amorphous silicon (col. 1, lines 13-16))**.**

Claims 2 and 10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hamakawa, and further in view of Keller, US Patent No. 5,406,067.

Hamakawa substantially teaches the limitations of claim 1 and 9 as shown above. Hamakawa is silent as to the spectral sensitivity distribution is that of the human eye.

RE CLAIMS 2 and 10: However, in an analogous structure, Keller teaches that **said predefined spectral sensitivity distribution is that of the human eye** (col. 1, line 20.

It would have been obvious to a person of ordinary skill in the art at the time the invention was made to employ a predefined spectral sensitivity distribution being that of a human eye as shown by Keller in order to use the human eye or its equivalent as the sensor.

Claim 3, 5-8, 11, 15-23, and 28 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hamakawa, and further in view of Figueroa et al. (Figueroa), US Patent No. 5,406,067.

Hamakawa shows substantially the limitations of claim 1 as shown above. Hamakawa is silent as to the III/V semiconductor material.

RE CLAIM 3: However, in an analogous structure, Figueroa teaches **said semiconductor body** (active region) **contains at least one III/V semiconductor material** (Figueroa states that the active region is made of III-V semiconductor material (col. 1, line 62))**.**

It would have been obvious to a person of ordinary skill in the art at the time the invention was made to employ a III/V material in order to provide a region of generation and control of carriers.

RE CLAIM 5: Hamakawa shows **a radiation detector** (1)

for detecting radiation in accordance with the predefined spectral sensitivity distribution of the human eye, which exhibits a maximum at the wavelength λ_0 (see MPEP 2114)**,**

comprising a semiconductor body (1) **with an active region** (6) **serving to generate a detector signal and intended to receive radiation** (see MPEP 2114)**, and said active region** (6) **comprises a plurality of functional layers** (PINPIN), **and wherein each one of said functional layers is configured to absorb at least some of the radiation** (a short wavelength component of the light is abosorbed in the I-layers of 4 and 5, col. 3, lines 8-11)**.**

Hamakawa is silent as to said semiconductor body contains at least one III/V semiconductor material.

However, in an analogous structure, Figueroa teaches **said semiconductor body contains at least one III/V semiconductor material** (Figueroa recites that the active region of III-V semiconductor material (col. 1, line 62)**.**

It would have been obvious to a person of ordinary skill in the art at the time the invention was made to employ a III/V material in order to provide a region of generation and control of carriers.

RE CLAIM 6: Hamakawa teaches **said functional layers** (PINPIN, fig. 1) **at least partially absorb radiation in a wavelength range that includes wavelengths greater than the wavelength λ_0** (see MPEP 2114)**.**

RE CLAIM 7: Hamakawa teaches **said functional layers** (PINPIN, fig. 1) **have different band gaps and/or thicknesses** (different thicknesses, fig. 1)**.**

RE CLAIM 8: Hamakawa teaches **disposed after said active region is a filter layer structure comprising at least one filter layer** (Hamakawa recites "the prior art discloses an example of a color sensor in which an optical filter, e.g., of color organic resin, is adhered to a sensor element of amorphous silicon)**, which filter layer structure determines the short-wave side of the detector sensitivity in accordance with said predefined spectral sensitivity distribution by absorbing radiation in a**

wavelength range that includes wavelengths smaller than λ_0 (see MPEP 2114)**.**

RE CLAIM 11: Figueroa teaches **said semiconductor body contains at least one III/V semiconductor material** (Figueroa recites that the active region of III-V semiconductor material (col. 1, line 62))**.**

RE CLAIM 15: Hamakawa teaches **that said filter layer structure is disposed after said active region** (Hamakawa recites "the prior art discloses an example of a color sensor in which an optical filter, e.g., of color organic resin, is adhered to a sensor element of amorphous silicon) **in the direction of the incident radiation.**

Hamakawa discloses the claimed invention but does not explicitly state that the filter structure is in the direction of the incident radiation. It would have been obvious to one having ordinary skill in the art at the time the invention was made to employ the filter structure in the direction of the incident radiation, since it has been held that rearranging parts of an invention involves only routine skill in the art. *In re Japikse*, 86 USPQ 70.

RE CLAIM 16: Hamakawa teaches **that said filter layer structure comprises a single filter layer** (Hamakawa recites "the prior art discloses an example of a color sensor in which an optical filter, e.g., of color organic resin, is adhered to a sensor element of amorphous silicon) **having a direct band gap and an indirect band gap.**

Hamakawa discloses the claimed invention except for the filter layer has a direct

band gap and an indirect band gap. It would have been obvious to one having ordinary skill in the art at the time the invention was made to employ a filter layer with a direct and indirect band gap, since it has been held to be within the general skill of a worker in the art to select known material on the basis of its suitability for the intended use as a matter of obvious design choice. *See MPEP § 2144.06*.

RE CLAIM 17: The radiation detector as in claim 16, characterized in that said direct band gap is larger than the band gap of a functional layer disposed after said filter layer on the side nearer said active region (See MPEP § 2144.06)**.**

RE CLAIM 18: Hamakawa teaches **characterized in that said filter layer** (Hamakawa recites "the prior art discloses an example of a color sensor in which an optical filter, e.g., of color organic resin, is adhered to a sensor element of amorphous silicon) **determines the short-wave side of said detector sensitivity by absorbing radiation via said indirect band gap in a wavelength range that includes wavelengths smaller than λ_0** (see MPEP 2114)**.**

RE CLAIM 19: The radiation detector as in one of claims 16 to 18, characterized in that said direct band gap (see MPEP § 2144.06) **determines a**

short-wave limit of said detector sensitivity (see MPEP 2114).

RE CLAIM 20: Hamakawa teaches the filter layer (Hamakawa recites "the prior art discloses an example of a color sensor in which an optical filter, e.g., of color organic resin, is adhered to a sensor element of amorphous silicon) the **thickness of said filter layer is greater than 1 μm, particularly 10 μm or more.**

Hamakawa discloses the claimed invention except for the thickness of said filter layer is greater than 1 μm. It would have been obvious to one having ordinary skill in the art at the time the invention was made to employ a thickness of said filter layer to be greater than 1 μm, since it has been held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art. *In re Aller*, 105 USPQ 233.

Please see MPEP 2144.05 for further support.

RE CLAIM 21: Hamakawa teaches of the **filter layer structure** (Hamakawa recites "the prior art discloses an example of a color sensor in which an optical filter, e.g., of color organic resin, is adhered to a sensor element of amorphous silicon) However, Hamakawa does not explicitly state that the filter layer **comprises a plurality of filter layers of different band gaps and/or thickness.**

Hamakawa discloses the claimed invention except for the filter layer comprises a plurality of filter layers of different band gaps and/or thickness. It would have been obvious to one having ordinary skill in the art at the time the invention was made to

employ a filter layer comprises a plurality of filter layers of different band gaps and/or thickness, since it has been held to be within the general skill of a worker in the art to select known material on the basis of its suitability for the intended use as a matter of obvious design choice. *See MPEP § 2144.06*.

RE CLAIM 22: Hamakawa teaches of the **filter layer structure** (Hamakawa recites "the prior art discloses an example of a color sensor in which an optical filter, e.g., of color organic resin, is adhered to a sensor element of amorphous silicon) **determines the short-wave side of said detector sensitivity by absorbing radiation via a direct band gap of the respective filter layer in a wavelength range that includes wavelengths smaller than λ_0** (see MPEP 2114)**.**

RE CLAIM 23: Hamkawa teaches the **filter layer structure** (Hamakawa recites "the prior art discloses an example of a color sensor in which an optical filter, e.g., of color organic resin, is adhered to a sensor element of amorphous silicon). However, Hamakawa does is silent as to the filter layer structure **has a thickness of 1 μm or less.**

Hamakawa discloses the claimed invention except for the filter layer structure having a thickness of 1 μm or less. It would have been obvious to one having ordinary skill in the art at the time the invention was made to employ a filter layer structure having a thickness of 1 μm or less, since it has been held that where the general

conditions of a claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art. *In re Aller*, 105 USPQ 233.

Please see MPEP 2144.05 for further support.

RE CLAIM 28: Figueroa teaches **said active region, particularly the functional layers, or said filter layer structure** (70) **contains at least one III/V semiconductor material** (Figueroa recites that the active region of III-V semiconductor material (col. 1, line 62))**.**

RE CLAIM 30: Figueroa teaches **the at least one III/V semiconductor material** (Figueroa recites that the active region of III-V semiconductor material (col. 1, line 62)). However Figueroa is silent as to the III/V semiconductor material **comprises a material having a composition $In_xGa_yAl_{1-x-y}P$, $In_xGa_yAl_{1-x-y}$ As, or $In_xGa_yAl_{1-x-y}N$, wherein in each case $0 \leq x \leq 1$, $0 \leq y \leq 1$ and $x + y \leq 1$.**

It would have been obvious to one having ordinary skill in the art at the time the invention was made to employ $In_xGa_yAl_{1-x-y}P$, $In_xGa_yAl_{1-x-y}$ As, or $In_xGa_yAl_{1-x-y}N$, wherein in each case $0 \leq x \leq 1$, $0 \leq y \leq 1$ and $x + y \leq 1$, since it has been held to be within the general skill of a worker in the art to select known material on the basis of its suitability for the intended use as a matter of obvious design choice. *In re Leshin*, 125 USPQ 416.

RE CLAIM 31: Figueroa teaches **the at least one III/V semiconductor material** (Figueroa recites that the active region of III-V semiconductor material (col. 1, line 62)). However Figueroa is silent as to the III/V semiconductor material **comprises a material having a composition $In_xGa_yAl_{1-x-y}P$, $In_xGa_yAl_{1-x-y}$ As, or $In_xGa_yAl_{1-x-y}N$, wherein in each case $0 \leq x \leq 1$, $0 \leq y \leq 1$ and $x + y \leq 1$.**

It would have been obvious to one having ordinary skill in the art at the time the invention was made to employ $In_xGa_yAl_{1-x-y}P$, $In_xGa_yAl_{1-x-y}$ As, or $In_xGa_yAl_{1-x-y}N$, wherein in each case $0 \leq x \leq 1$, $0 \leq y \leq 1$ and $x + y \leq 1$, since it has been held to be within the general skill of a worker in the art to select known material on the basis of its suitability for the intended use as a matter of obvious design choice. *In re Leshin*, 125 USPQ 416.

Cited Prior Art

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Reference 1: U.S. Pub. No. 2003/0001167 A1 (Eriksson et al.)

Eriksson et al. discloses evidence of the level of ordinary skill in the art by providing confirmation of a bandgap filter arrangement (one or more filters) upstream of said detector. Also, the filter layers are placed in the direction of the photon entry.

Reference 2: U.S. Patent. No. 6,476,374 B1 (Kozlowski et al.)

Kozlowski et al. discloses evidence of the level of ordinary skill in the art by providing confirmation of III-V semiconductors have several advantages for application as photodetectors for visible imaging systems. It is very desirable for detectors to have a direct band gap semiconductor, so that the photons are efficiently and quickly absorbed..

Reference 3: U.S. Patent. No. 5,449,923 (Kuo et al.)

Kuo et al. discloses evidence of the level of ordinary skill in the art by providing confirmation that the color detector exists wherein the amorphous silicon layer comprises only an undoped layer and therefore, quality can be easily controlled.

Response to Arguments

Applicant argues, (page 8, filed 10/13/2009) that Hamakawa provides no teaching regarding the band gaps of the PIN structures in his color sensors, and it cannot be fairly stated that Hamakawa either discloses or suggests an active region of a radiation detector having at least two functional layers with different band gaps.

In response to Applicant's argument, the Examiner states that the Applicant's arguments and amendments have been fully considered and are persuasive. Therefore, the rejection has been withdrawn. However, upon further consideration, a new ground(s) of rejection is made in view of Ovshinsky. Ovshinsky teaches **at least two** (intrinsic layers of at least two triads) **of said functional layers having different band gaps** (at least two triads are fashioned so as to have band gaps optimized to absorb different wavelengths of the solar spectrum.

Applicant argues (page 8, filed 10/13/2009), that claims 4, 13-14, and 24-27 depend from one of claims 1 or 9, and are therefore patentable over Hamakawa for at least the same reasons as stated in the previous argument.

In response Applicant's arguments, the Examiner states the independent claims 1 and 9 are unpatentable under the new ground(s) of rejection over Hamakawa and Ovshinski. Therefore claims 4, 13-14, and 24-27 are at least unpatentable under the new ground(s) of rejection.

Applicant argues, (page 8, filed 10/13/2009) that claims 2 and 20 depend from claims 1 and 9, respectively, each of which is patentable over Hamakawa a explained above. Keller does not cure Hamakawa's deficiencies with regard to claims 1 and 9, at least because Keller fails to disclose or suggest radiation detectors with an active region that includes at least two functional layers having different band gaps.

In response Applicant's arguments, the Examiner states the independent claims 1 and 9 are unpatentable under the new ground(s) of rejection over Hamakawa and Ovshinski. Therefore claims 2 and 20 are at least unpatentable under the new ground(s) of rejection.

Applicant argues, (page 11, filed 10/13/2009) that Figueroa does not cure the deficiencies of Hamakawa with regard to claims 1 and 9, at least because Figueroa fails to disclose or suggest radiation detectors with an active region that includes at least two

functional layers having different band gaps. Accordingly, claims 1 and 9 are patentable over Hamakawa and Figueroa, alone or in combination.

In response Applicant's arguments, the Examiner states the independent claims 1 and 9 are unpatentable under the new ground(s) of rejection over Hamakawa and Ovshinski. Therefore claims 3, 5-8, 11, 15-23, and 28 are at least unpatentable under the new ground(s) of rejection.

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to PETER LOXAS whose telephone number is (571)270-7380. The examiner can normally be reached on IFP.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Lynne Gurley can be reached on (571) 272-1670. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/PETER LOXAS/
Examiner, Art Unit 2811
12/24/09

/Lynne A. Gurley/
Supervisory Patent Examiner, Art Unit 2811